

## PLANTS IN CARDIOLOGY

*Scilla (Urginea) maritima.*

Fig. 501. Base de la plante.

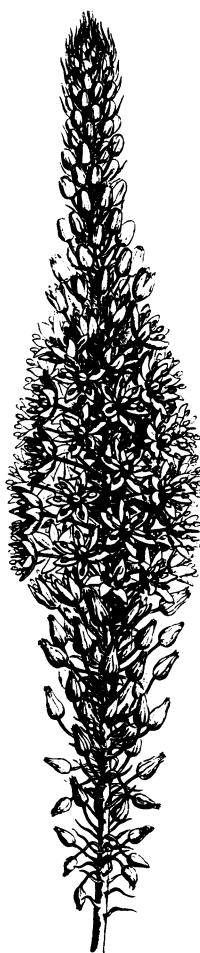


Fig. 502. Inflorescence.

The Linnean Society

*Drimia maritima* (L.) Stearn. Baillon H. *Histoire des plantes*, volume 12. Paris: Librairie Hachette, 1892:454.

### Medicinal plant discovery

Plants are the origin of important cardiovascular drugs and the articles in this series, which now comes to an end, describe their discovery and development. The organic chemicals in plants that we exploit for medical use are often poisonous secondary compounds—that is, not involved in metabolism. So it is not entirely clear why they are produced. Some of them act as defences against animal or insect predators, or indeed against other plants.

In many cases a medicinal plant was first used in folk medicine and with some of these remedies the drug is actually contained in the plant and can be used without modification, as

with digoxin and morphine. But in other instances scientific endeavour has been all important in developing new medicines or new uses from the folk remedy. As examples of new medicines one can cite amiodarone, verapamil, and aspirin; while new uses include atropine, reserpine, and ryanodine. There have been important contributions too from other sources. Veterinary medicine led to oral anticoagulants and to an animal model for pulmonary hypertension. Academic chemistry produced lignocaine and it was a patient's own experience that gave us quinidine. There is no obvious explanation for the distribution of medicinal compounds in the plant kingdom. There are about 300 families of plants and just 22 are the source of all the major pharmaceutical drugs. The family Apocynaceae with a total of 2100 species has three that yield important medicines while Compositae with 21 000 species includes only two minor ones.

There must be more plant medicines awaiting discovery, but how do we go about finding them? I do not believe that theorising from existing knowledge will be the answer. Progress is likely to develop along the lines it has followed in the past.

Squill or sea onion *Drimia maritima* (Liliaceae) a Mediterranean plant has been used since antiquity to treat heart disease. It was known to the ancient Egyptians, to Pythagorus (who wrote a treatise on it in the 6th century BC), and to Hippocrates who prescribed it as a diuretic. From Greek and Roman times onward it was widely used as an expectorant, diuretic, and emetic. It was also valued as a rat poison and used to control outbreaks of plague in Egypt. Squill was a constituent of the famous Guy's Pill which remained in the pharmacopoeia until 1960. The active principle is the cardiac glycoside proscillaridin A.

I would like to express my warm thanks to Jane Dawson whose idea it was to produce this series and to Dr Dennis Krikler for his support and encouragement. It has been a pleasure to write these articles and I hope you have enjoyed reading them. Fare-well!

The idea for this series comes from a booklet, *Cardiology from Nature*, which Dr Hollman wrote for Teletonics Pacing Systems at the suggestion of Mr Peter Sedgwick.

The articles are now published as a book, *Plants in Cardiology*, at £5.95 (including postage and packing) available from the BMJ Publishing Group, BMA House, Tavistock Square, London WC1H 9JR or from all medical bookshops including the BMJ Bookshop at BMA House.

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